UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/900,477	07/06/2001	Jung-Hong Kao	M-12276 US	4181

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EXAMINER
CHO, HONG SOL

ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 10/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/900,477	KAO ET AL.
	Examiner	Art Unit	
	Hong Cho	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE **3** MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>08 September 2006</u>.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-22* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1,2,4,6,16 and 19-21* is/are rejected.

7) ☒ Claim(s) *3,5,7-15,17,18 and 22* is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This office action is in response to the amendment filed on 9/8/2006. Claims 1-22 are

pending in the instant application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 2, 4, 6, 16 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Yim (USPUB 2003/0206527) in view of Hluchyj et al (U.S 5426640), hereinafter

referred to as Hluchyj.

Re claims 1, 20 and 21, Yim discloses a method for transmitting a data message

from an originating node to a destination node by utilizing the monitored information on

the available ring capacity and the data flow rate or traffic loading on each ring (*a method*

for servicing transmit traffic in a node of a network, the network including a plurality of

nodes connected by first and second rings formed by two or more transmission media,

paragraph [0005-0009], figure 3). Yim discloses a look-up table containing information about the number of ring links along which a data message (*receiving a packet for routing to the network*) has to travel along each ring between the nodes to reach its destination so that the shortest route for the data message can be determined (*determining a shortest path to a destination node including identifying one of the first and second rings as being associated with the shortest path*, paragraph [0021]). Yim discloses selecting another ring when one ring contains a lot of traffic and is congested (*determining if the identified one of the first and second rings is more congested than the other of the first and second rings*, paragraph [0021]). Yim does not disclose using the transit delay data in determining if the identified one of the first and second rings is more congested than the other of the first and second rings. Hluchyj discloses providing a source node with a packet containing a congestion level measured by the depth of transit queues (*transit delay data*) in each node along the path (column 4, lines 33-35; 38-42). Since Yim suggests measuring traffic loading based on the number of messages queued at each node for transmission, it would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the teaching of Hluchyj in receiving a packet containing congestion level by measuring the depth of transit queues into Yim so that traffic on the congested ring would be lessened by routing packets to the other ring with less congestion.

Re claims 2 and 4, Yim discloses all of the limitations of the base claim, but fails to disclose determining transit delay data for the node, appending the transit delay data for the node to the received transit delay data and forwarding the transit delay data

including appended transit delay data to an upstream node. However, it is well known in

the art that the overall transit delay data for a given time period along a path/route is

measured by the summation of a transit delay data in each node. Hluchyj discloses

determining transit delay data for the node (column 4, lines 38-42) and forwarding the

transit delay data as indicated by a congestion level by summing changes of all the nodes

traversed by a path at a given time (*appending the transit delay data for the node to the*

received transit delay data and forwarding the transit delay data including appended

transit delay data to an upstream node in the form of a plurality of vectors, column 3,

lines 53-63). It would have been obvious to one having ordinary skill in the art at the

time the invention was made to implement the teaching of Hluchyj in determining

congestion level along a path by receiving an accumulated transit delay data from

downstream nodes and forward the transit delay data to an upstream node to improve

network utilization by implementing dynamic congestion control scheme.

Re claim 6, Yim discloses selecting another ring when one ring contains a lot of

traffic and is congested (*determining if the identified one of the first and second rings is*

more congested than the other of the first and second rings, paragraph [0021]). Yim does

not disclose determining if the identified one of the first and second rings is more

congested than the other of the first and second rings by using a latency metric, indicative

of a delay between the node and the destination node. Hluchyj discloses providing a

source node with a packet containing a congestion level (*latency metric*) measured by the

depth of transit queues in each node along the path (*indicative of a delay between the*

node and the destination node, column 4, lines 33-35; 38-42). It would have been

obvious to one having ordinary skill in the art at the time the invention was made to

implement the teaching of Hluchyj in using a latency metric into Yim so that the latency

metric would be used to select the other ring with less congestion for routing a packet.

The motivation is to have dynamic congestion control scheme implemented to improve

network utilization.

Re claim 16, Yim discloses a look-up table containing information about the

number of ring links (*a hop count between the node and the given destination node for

each of the first and second rings*, paragraph [0021], lines 3-5), choosing the shortest

route (*a static ring selection based on the hop count*, paragraph [0021], lines 3-5), and

selecting less congested ring to route a packet (*dynamic ring selection*, paragraph [0021],

lines 3-5). Yim discloses selecting another ring when one ring contains a lot of traffic

and is congested (*determining if the identified one of the first and second rings is more

congested than the other of the first and second rings*, paragraph [0021]). Yim does not

disclose using the transit delay data in determining if the identified one of the first and

second rings is more congested than the other of the first and second rings. Hluchyj

discloses providing a source node with a packet containing a congestion level measured

by the depth of transit queues (*transit delay data*) in each node along the path (column 4,

lines 33-35; 38-42). Since Yim suggests measuring traffic loading based on the number

of messages queued at each node for transmission, it would have been obvious to one

having ordinary skill in the art at the time the invention was made to implement the

teaching of Hluchyj in receiving a packet containing congestion level by measuring the

depth of transit queues into Yim so that congested level information contained in a packet

would be used in selecting the other ring with less congestion for routing a packet and

thereby reduce network congestion and improve network utilization.

Re claim 19, Yim discloses the transit delay is measured by the amount of traffic

in a transit buffer for a given node.

Allowable Subject Matter

4.   Claims 3, 5, 7-15, 17, 18 and 22 are objected to as being dependent upon a rejected base

. claim, but would be allowable if rewritten in independent form including all of the

limitations of the base claim and any intervening claims.

Response to Arguments

5.   Applicant's arguments filed on 9/8/2006 have been fully considered but they are not

persuasive.

On page 2 of the remark, applicants argue that Yim neither teaches nor suggests

identifying a ring based on a shortest path, and in response to identifying one of the first

and second rings as being associated with the shortest path to the destination, determining

if the identified ring is more congested than another ring.

In reply, the examiner believes that Yim discloses first identifying one ring based

on a shortest path by using a look-up table (paragraph [0021], lines 6-7), and then

selecting another ring to route a packet, if the one ring that has been identified as a

shortest route is congested, by performing fault detection on a ring (paragraph [0025],

lines 5-8).

Therefore, the Examiner concludes that the rejection of claims is proper.

Conclusion

6.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

advisory action. In no, however, event will the statutory period for reply expire later than

SIX MONTHS from the mailing date of this final action.

7.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Hong Cho whose telephone number is 571-272-3087.

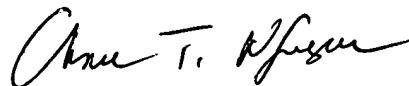The examiner can normally be reached on Mon-Fri during 7 am to 4 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Hassan Kizou can be reached on 571-272-3088. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free).

hc
Hong Cho
Patent Examiner
9/25/2006

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